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|-------------------------------|------------------------|---------------------|----|
| <b>Notice of Allowability</b> | <b>Application No.</b> | <b>Applicant(s)</b> |    |
|                               | 10/691,668             | KAMON ET AL.        |    |
|                               | <b>Examiner</b>        | <b>Art Unit</b>     |    |
|                               | McDieunel Marc         | 3661                | MW |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 1/20/2004.
2.  The allowed claim(s) is/are 1-6.
3.  The drawings filed on 24 October 2003 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
 of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 1/20/2004
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

*Thomas G. Black*  
 THOMAS G. BLACK  
 SUPERVISORY PATENT EXAMINER  
 GROUP 3603

***Allowable Subject Matter***

1. Claims 1-6 are allowed.

2. The following is an examiner's statement of reasons for allowance:

The prior art of record fail to teach or fairly suggest a positioning data calculating procedure calculates analytically relative rotation angles for the links arranged in series to form an articulated manipulator to locate an object in a desired orientation at a desired position. Coordinate expressions including an x-coordinate expression representing the x-coordinate of a triaxial intersection point, a yz addition coordinate expression representing the sum of the y- and the z-coordinate of the triaxial intersection point, and a yz subtraction coordinate expression representing the remainder of subtraction of the z-coordinate from the y-coordinate of the triaxial intersection point, and including first to third rotation angles corresponding to rotation angles through which the second link is turned relative to the first link, through which the third link is turned relative to the second link, and through which the fourth link is turned relative to the third link as variables are solved. The first to the third rotation angles can easily and analytically be determined by using the yz addition coordinate expression and the yz subtraction coordinate expression. Fourth to sixth angles can analytically be determined on the basis of the first to the third rotation angle. The determination of the first to the sixth rotation angle by an analytical operation needs

a time shorter than that needed by the determination of the same by a convergence operation.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to McDieunel Marc whose telephone number is (703) 305-4478. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (703) 305-8233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

McDieunel Marc  
Tuesday, April 20, 2004

*Thom Black*  
THOMAS G. BLACK  
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